

# Exhibit IND19

1                   BEFORE THE UNITED STATES DISTRICT COURT

2                   FOR THE CENTRAL DISTRICT OF CALIFORNIA

3   - - - - -x

4   NEUROGRAPHIX, a California       :

5   corporation, and WASHINGTON       :

6   RESEARCH FOUNDATION, a           :

7   not-for-profit Washington       :

8   corporation,                       :

9                   Plaintiffs,               : Case Number

10                  vs.                       : 10-CV-1990 MRP (RZx)

11   SIEMENS MEDICAL SOLUTIONS       :

12   USA, INC., a Delaware           :

13   corporation, and SIEMENS       :

14   AKTIENGESELLSCHAFT, a German   :

15   corporation,                       :

16                   Defendants.               :

17   - - - - -x

18  
19                  VIDEOTAPED DEPOSITION OF ROBERT NICK BRYAN, M.D.

20  
21    Washington, D.C.

22    Wednesday, September 7, 2011

23  
24                  REPORTED BY:

25                          SARA A. WICK, RPR, CRR

1 Videotaped deposition of ROBERT NICK BRYAN,  
2 M.D., called for examination pursuant to notice of  
3 deposition, on Wednesday, September 7, 2011, in  
4 Washington, D.C., at the offices of Kirkland & Ellis  
5 LLP, at 10:05 a.m., before SARA A. WICK, RPR, CRR,  
6 and a Notary Public within and for the District of  
7 Columbia, when were present on behalf of the  
8 respective parties:

9 FREDRICKA UNG, ESQ.

10 Russ August & Kabat

11 12424 Wilshire Boulevard, 12th Floor

12 Los Angeles, California 90025

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15 On behalf of Plaintiffs

16  
17 SEAN MC ELDFOWNEY, ESQ.

18 CHRISTOPHER NALEVANKO, ESQ.

19 Kirkland & Ellis LLP

20 655 15th Street Northwest

21 Washington, D.C. 20005

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23 sean.mcelldowney@kirkland.com

24 On behalf of Defendants

25 Also Present: Jonathan Perry, Videographer

1 P R O C E E D I N G S

2 VIDEO OPERATOR: This is disk number 1 of  
3 the videotaped deposition of Robert Nick Bryan,  
4 taken on behalf of the Plaintiff in the matter of  
5 Neurographix, et al., versus Siemens Medical  
6 Solutions USA, Incorporated, et al., Case Number  
7 10-1990 MRP (RZx), in the U.S. District Court for  
8 the Central District of California.

9 This deposition is being taken at the  
10 offices of Kirkland & Ellis, 655 15th Street  
11 Northwest, Washington, D.C. The time on the video  
12 screen is currently 10:05:13 a.m. Today's date is  
13 September 7th, 2011. The court reporter is Sara  
14 Wick, the videographer is Jonathan Perry, both here  
15 on behalf of Barkley Court Reporters.

16 Will counsel present, please, introduce  
17 themselves and state whom they represent.

18 MS. UNG: Fredricka Ung on behalf of  
19 Neurographix.

20 MR. MC ELDOWNNEY: Sean McEldowney from  
21 Kirkland & Ellis on behalf of the Siemens  
22 Defendants. With me today is Christopher Nalevanko,  
23 also with Kirkland & Ellis.

24 VIDEO OPERATOR: And will the reporter  
25 swear in the witness, please.

1 Whereupon,

2 ROBERT NICK BRYAN

3 was called as a witness and, having first been duly  
4 sworn, was examined and testified as follows:

5 EXAMINATION

6 BY MS. UNG:

7 Q Good morning.

8 MR. MC ELDOWNEY: Before we start, there's  
9 one thing that I just want to point out. We had  
10 agreed on a schedule in this case for depositions  
11 that had the expert depositions completed before  
12 August 24th when Siemens's brief was due, and we had  
13 agreed on a window that ended August 17th. We  
14 offered two dates during that window, and Mr. Weiss  
15 informed us that those dates didn't work during the  
16 window because Marc Fenster had a family vacation  
17 planned and Alex Giza was going to be out of the  
18 country, and also, there was a Markman hearing on  
19 August 18th in Texas that Marc was involved in.  
20 Marc Fenster nor Alex Giza is here today, and I  
21 gather from our conversation a few minutes ago that  
22 you were not a part of the claim construction  
23 hearing in Texas.

24 And in the future, we expect more candid  
25 conversations about scheduling depositions and

1 exercise, I do not recall doing so.

2 Q Have you ever selected ROIs of two  
3 different structures for comparison of signal  
4 intensity of the two structures?

5 A Yes.

6 Q And how often do you do that?

7 A In clinical practice, very unusually. For  
8 research purposes, I have done that a number of  
9 times.

10 Q And why would you select ROIs of two  
11 different structures for comparison of signal  
12 intensity of the two structures?

13 A For research purposes, to quantitate  
14 differences in the signal in the two structures.

15 Q And when you were selecting the ROIs for  
16 research purposes to quantitate the differences in  
17 signal intensity in the two structures, you would  
18 select an ROI of, for example, structure A and  
19 structure B; correct?

20 A Yes.

21 Q And when selecting an ROI of structure A  
22 to determine the signal intensity of that structure,  
23 you would take care to select an ROI that only  
24 contained that structure and no other structure;  
25 correct?

1 MR. MC ELDOWNNEY: Objection. This is an  
2 incomplete hypothetical.

3 THE WITNESS: I would place the ROI  
4 following the methodological directives of that  
5 particular task. So in the research environment,  
6 there's a methods section of a research report, and  
7 if ROIs are to be used in that project, then the  
8 definitions and how to operationally place the ROIs  
9 should be in that methods section, and I would  
10 follow those instructions.

11 BY MS. UNG:

12 Q But if you were interested in the signal  
13 intensity of a particular structure, you wouldn't  
14 select an ROI that consisted of that structure and  
15 some other structure; correct?

16 MR. MC ELDOWNNEY: Objection; vague as  
17 to "structure" and "that structure."

18 THE WITNESS: It depends specifically on  
19 the task at hand.

20 BY MS. UNG:

21 Q Do you understand what I mean by a  
22 "homogenous nerve"?

23 MR. MC ELDOWNNEY: Objection; vague.

24 THE WITNESS: I do not understand what you  
25 mean by "homogenous nerve."

1 BY MS. UNG:

2 Q Do you understand what I mean  
3 by "homogenous structure"?

4 A I have a general idea, based upon the  
5 definition of the term "homogenous," but it would  
6 need to be carefully defined if one is applying that  
7 to a particular task. Homogeneity is very much a  
8 function of scale.

9 Q Assuming that a particular structure has  
10 consistent signal intensity throughout the entire  
11 structure, can we agree for purposes of this  
12 deposition that that tissue would be considered a  
13 homogenous tissue?

14 MR. MC ELDOWNEY: Objection; vague as to  
15 "consistent signal intensity throughout the entire  
16 structure."

17 THE WITNESS: Repeat the question.

18 (Record read by the court reporter as  
19 follows: "Q: Assuming that a particular  
20 structure has consistent signal intensity  
21 throughout the entire structure, can we  
22 agree for purposes of this deposition that  
23 that tissue would be considered a  
24 homogenous tissue?")

25 MR. MC ELDOWNEY: And same objection.



1 Vague as to "consistent signal intensity throughout  
2 the entire structure."

3 THE WITNESS: So I will answer that, and  
4 my answer is no. We can agree that the signal  
5 intensity is homogeneous.

6 BY MS. UNG:

7 Q Okay.

8 A I would not agree that the tissue is  
9 homogeneous by other criteria.

10 Q Okay. I would like you to assume that  
11 when I'm saying -- to understand that when I refer  
12 to a homogenous tissue or homogenous structure, that  
13 what I'm referring to is that the signal intensity  
14 is homogenous and not tissue or structure.

15 MR. MC ELDFOWNEY: I just want to say that  
16 Dr. Bryan just explained that he, I think, disagreed  
17 with some of the characterizations there. So if  
18 we're going to go forward with your understanding  
19 and definition of homogeneous here, I want to make  
20 clear on the record that it's a different definition  
21 than Dr. Bryan understands the word to mean and a  
22 different definition than what others might  
23 understand it to mean.

24 THE WITNESS: So for the part of this  
25 discussion, if we use, for this discussion only,

1 your definition of homogeneous as related to  
2 homogeneous signal, then I think we can proceed with  
3 the questions with the clear understanding that a  
4 homogeneous signal does not necessarily indicate a  
5 homogeneous structure from an anatomic sense.

6 BY MS. UNG:

7 Q Okay. I agree with you on that. We're  
8 referring to the homogeneity of the signal intensity  
9 of the structure and not the structure itself --

10 A Yes.

11 Q -- that would be homogenous; is that fair?

12 A Yes.

13 Q If you were to select an ROI in a  
14 structure with homogenous signal intensity, the ROI  
15 would yield similar results regardless of size;  
16 right?

17 MR. MC ELDOWNY: Objection; vague.

18 THE WITNESS: Not necessarily, because  
19 noise, amongst other things, has to be taken into  
20 account.

21 BY MS. UNG:

22 Q Okay. Assuming that noise does not affect  
23 the signal intensity of the image, would --

24 A That's a false assumption. Noise always  
25 affects any measurement.

1 Q Okay.

2 A Signal intensity is a measurement. Noise  
3 will always affect the signal intensity.

4 Q Assuming that the nerve does not affect  
5 the signal intensity of the image, if you were to  
6 select an ROI with homogenous signal intensity, that  
7 ROI would yield similar results to an ROI that may  
8 defer in size; correct?

9 MR. MC ELDOWNEY: Just for clarity on the  
10 record, I think there was a word misspoken there.  
11 Nerve, perhaps, instead of noise. I object to the  
12 question as vague.

13 MS. UNG: Let me rephrase that.

14 BY MS. UNG:

15 Q Assuming that noise does not affect the  
16 signal intensity of the image, regardless of the  
17 size of the ROI that you're selecting within the  
18 homogenous -- the structure with homogenous signal  
19 intensity, you would obtain similar results; right?

20 MR. MC ELDOWNEY: I'm going to object, I  
21 guess, as vague and incomplete hypothetical.  
22 Dr. Bryan just explained he disagrees with the base  
23 assumption. So we are now two assumptions in on  
24 both homogeneity and noise. So we're building a  
25 pretty complex hypothetical here.

1           To the extent you understand the question  
2           and the assumptions, you can answer.

3           MS. UNG: Let me rephrase it.

4           BY MS. UNG:

5           Q     Do you understand the question?

6           A     I believe so, and it is a very  
7           hypothetical question, because such conditions  
8           really never exist in practice. But assuming that  
9           you have a structure that has homogeneous -- that  
10          means the same signal everywhere -- and no noise,  
11          which never happens in a measurement, then any ROI  
12          placed within that homogeneous signal area would  
13          have a similar measurement.

14          Q     Now, assuming that you have a structure  
15          that is homogeneous -- that means the same signal  
16          intensity everywhere -- and the noise does not  
17          impact the image, not saying that there is no noise,  
18          but that the noise does not impact the image, then  
19          any ROI placed within that homogenous signal area  
20          would have similar measurements; right?

21          A     I think I've answered that question.

22          MR. MC ELDOWNNEY: I'm going to object and  
23          say asked and answered, as well as that we're still  
24          two assumptions deep on assumptions that Dr. Bryan  
25          disagrees with.

1 THE WITNESS: I believe your previous  
2 question was the same that I've answered.

3 MR. MC ELDOWNEY: When it's a convenient  
4 place where we can take a break and check on your  
5 documents as well.

6 BY MS. UNG:

7 Q You have agreed -- strike that.

8 You understand that what we have been  
9 referring to as a homogenous structure is simply a  
10 structure that has the same signal intensity  
11 throughout the structure; right?

12 A That is how you've defined it, and I've  
13 agreed to that definition for the purpose of this  
14 discussion.

15 Q So when I refer to a heterogenous  
16 structure, I'm referring to a structure that does  
17 not have the same signal intensity throughout the  
18 entire structure. Can you agree to that definition  
19 of "heterogenous" --

20 A Yes.

21 Q -- "structure"?

22 MR. MC ELDOWNEY: I'm going to point out  
23 again this is still based on the definition of  
24 homogeneity that Dr. Bryan disagrees with.

25 BY MS. UNG:

1 THE WITNESS: I don't understand the  
2 question. If I do understand the question, the  
3 answer is no. But can you clarify that question?

4 BY MS. UNG:

5 Q Sure. Could you use the thresholding  
6 process as a tool for selecting the region of  
7 interest?

8 MR. MC ELDOWNNEY: Objection; vague.

9 THE WITNESS: One can use the thresholding  
10 process as one of the components to define an ROI if  
11 that is the instruction for that particular ROI  
12 application.

13 BY MS. UNG:

14 Q Okay. If you could take a look at Exhibit  
15 11, which is the '360 patent.

16 A Yes.

17 Q Column 28 of the patent.

18 A Yes.

19 Q Beginning with the first complete sentence  
20 in column 28, that paragraph discusses a  
21 thresholding process; right?

22 MR. MC ELDOWNNEY: Objection. The document  
23 speaks for itself.

24 If you need to read the whole paragraph or  
25 the context before and after, feel free to.

1 THE WITNESS: Direct me to which lines or  
2 paragraphs you want me to read here?

3 BY MS. UNG:

4 Q Line 2 through line 7.

5 A Okay.

6 Q Could you use this thresholding process  
7 described in column 28, beginning at line 2, to  
8 select a region of interest within a nerve?

9 MR. MC ELDFOWNEY: Objection; vague as  
10 to "this thresholding process."

11 THE WITNESS: You could use a thresholding  
12 technique as a part of a ROI process. But as stated  
13 here, the thresholding process is so vague as to be  
14 useless. For instance, "thresholding process is  
15 used to identify relatively bright regions." What  
16 is "relative"? Relative usually requires a  
17 comparative, and there's no comparative here. So  
18 this phrase does not help me set up an ROI at all.

19 Following that, this statement "regions of  
20 the image potentially representative of nerve."  
21 Potentially, what does potentially mean? You need  
22 to have some criteria, something more definite than  
23 that to know whether or not this, quote, relatively  
24 bright voxel was potentially related to a nerve.  
25 What's the criteria for "potentially

1 representative"? So this -- if you will, if this is  
2 to be taken as an attempt at an operational  
3 definition of a thresholding process to establish an  
4 ROI, it is of no practical use, it does not  
5 sufficiently guide anyone to make an ROI. It is too  
6 vague. It is indefinite.

7 BY MS. UNG:

8 Q If you have made an image according to the  
9 method described in this patent and you have  
10 something bright that looks like it could be a  
11 nerve, could you use the thresholding process to  
12 select only that bright region that could represent  
13 a nerve?

14 MR. MC ELDOWNY: Objection; vague as to  
15 "method described in this patent."

16 THE WITNESS: There are three conditions  
17 in your question. So the first condition is if one  
18 or I had made an image -- you may have to read back  
19 to me, an image using this methodology. So first of  
20 all, I don't know what this methodology is. This  
21 patent, to me, does not describe any methodology.  
22 It does not instruct me sufficiently to know if I  
23 may or may not have used this method.

24 I can refer to figure 11 in your patent.  
25 Figure 11 is described as a diagram of the



1 controlling sequence, the controller sequence.  
2 Figure 11 to me is a blank, unfilled-in pulse  
3 sequence. It's like being given a treble clef and  
4 told one could fill in the treble clef with notes  
5 and make good music. This is a blank sheet of  
6 paper. I don't know what this method is.

7 So this question that you're asking is  
8 extremely hypothetical from the first condition. I  
9 don't know what this method is.

10 And the second part of the question  
11 conditional was if there were a bright voxel -- I  
12 may want actually that part of the question read  
13 back.

14 (Record read by the court reporter as  
15 follows: "Q: If you have made an image  
16 according to the method described in this  
17 patent and you have something bright that  
18 looks like it could be a nerve, could you  
19 use the thresholding process to select  
20 only that bright region that could  
21 represent a nerve?")

22 THE WITNESS: So I've got a bright thing  
23 on the image that could be a nerve. What is the  
24 criteria for me to link the brightness to the nerve,  
25 to a possible nerve. The patent seems to suggest

1 that all bright things are nerves, or at least the  
2 brightest things are nerves. Again, I think if you  
3 go back to column 6, "There exists a large number of  
4 pulse sequences capable of controlling or operating  
5 a magnetic resonance imaging apparatus and each of  
6 which accomplishes some preferred" "optimization.  
7 Previously, however, no" "(single) or complex,"  
8 leaving out the parentheses, "pulse sequence has  
9 been able to increase the relative signal intensity  
10 of" a "nerve so that it is brighter than all other  
11 tissues in the body or limb cross section.  
12 Surprisingly, the inventors have discovered that  
13 there are certain novel ways of assembling complex  
14 pulse sequences, wherein even though the simple  
15 components of the sequence decrease the  
16 signal-to-noise ratio of nerve or decrease the  
17 signal strength of nerve relative to other tissues,  
18 the fully assembled complex sequence actually  
19 results in the nerve signal being more intense than  
20 any other tissue. In this fashion, the image  
21 conspicuity of nerve is greatly increased."

22 So the way I read and interpret that is  
23 that if I had performed an image with this  
24 methodology, which I don't understand and I don't  
25 think the patent describes, and I get an image, the

1   brightest things on there are nerve that has not  
2   been demonstrated to be true in the patent and the  
3   illustrations. So this is getting really, really  
4   hypothetical now.

5           Then the final part is, could I use the  
6   thresholding method to select those bright areas as  
7   nerves. And the answer to that question is no. I  
8   could, with the thresholding technique, select those  
9   bright areas.

10           BY MS. UNG:

11           Q     Okay.

12           A     But I could not make the inference that  
13   those are nerves.

14           Q     Okay. So you could use the thresholding  
15   process, however, to select the bright areas?

16           A     Yes, I can use a thresholding process to  
17   select any bright signal.

18           Q     And when you're using the thresholding  
19   process to select the bright area in the image,  
20   could you use the thresholding process to select the  
21   largest region of interest within that bright  
22   region?

23           MR. MC ELDFOWNEY: Objection; vague as  
24   to "largest region."

25           THE WITNESS: As I understand the

1 question, I believe the answer is no. Thresholding  
2 is simply an operation on signal brightness. In and  
3 of itself, it does not determine size, shape, or  
4 volume. The thresholding tool operates simply on  
5 the signal intensity of each voxel. You would have  
6 to do something else to define a spatial property  
7 such as size, shape, or position.

8 BY MS. UNG:

9 Q Can you use the thresholding process to  
10 identify the brightest area in an image?

11 MR. MC ELDOWNNEY: Objection to form as  
12 to "the thresholding process."

13 THE WITNESS: Yes, generally, you can use  
14 a thresholding process to identify the brightest.  
15 That's not the only thing a thresholding could  
16 identify, but it could identify the brightest.

17 BY MS. UNG:

18 Q In your expert report, you have expressed  
19 the opinion that noise could obscure the differences  
20 in tissue signal intensities; right?

21 A Yes.

22 Q Do you know if noise actually obscured the  
23 signal intensities in the images you used in Exhibit  
24 C to your opening report?

25 MR. MC ELDOWNNEY: Objection; vague.

1 THE WITNESS: I did not do any noise  
2 calculations.

3 BY MS. UNG:

4 Q Why did you not do any noise calculations?

5 A As sort of agreed upon and stated in the  
6 report, I was simply applying the formula that we  
7 previously discussed,  $S_n$  over  $S_b$ . I was simply  
8 using that formula, which I've already indicated was  
9 an inadequate formula because it did not include  
10 noise as a component, so for those calculations, I  
11 was using for this report and for that purpose only  
12 the formula  $S_n$  over  $S_b$ . That does not include  
13 noise.

14 Q Do you know if noise actually obscured the  
15 signal intensities in the images you used in Exhibit  
16 C to your opening report?

17 A Noise affected the signal intensities on  
18 those images, yes.

19 Q And what is your basis for that opinion?

20 A There is noise in all measurements.  
21 Images have many measurements. There is noise in  
22 all images.

23 Q Do you know if --

24 A There is an ROI that is outside of the  
25 body that is one reflection, not at all possibly the

1 I HEREBY CERTIFY that I have read this  
2 transcript of my deposition and that this transcript  
3 accurately states the testimony given by me, with  
4 the changes or corrections, if any, as noted.

5  
6  
7 \_\_\_\_\_X

8  
9  
10  
11 Subscribed and sworn to before me this \_\_\_\_\_ day of  
12 \_\_\_\_\_, 20\_\_\_\_.

13  
14  
15  
16 \_\_\_\_\_X  
17 Notary Public

18  
19  
20  
21 My commission expires: \_\_\_\_\_.